

## 2017-2018 Steamfitter Journeymen Training Course Descriptions

please check [LU420.com](http://LU420.com) Training page for Schedule & Course description updates

email [JATRegistration@lu420.com](mailto:JATRegistration@lu420.com) with questions & to request courses



**AL101 AL101 Course** includes hands on use of dimensions, tolerances & instruments and alignment of shafts including an introduction to reverse alignment

**AF101 AF101 Course** includes 2015 updates on Arc Flash safety into our Electrical Safety Training Program(Required sometime during Track 1 thru Track 4)

### Boilers-Burners-Combustion, etc.

**BB101 BB101 Course** Boiler-Burner & Combustion fundamentals Training, etc.

**BB102 BB102 Course** intermediate Boiler-Burner & Combustion Training, etc.

**BB103 BB103 Course** includes advanced Boiler-Burner & Combustion Training, etc.

### Controls

**CP101 Basic Controls & Pnuematic** course is the prerequisite for the Controls courses and MESJ courses. Electric, Electronic, Pnuematic and basic PID control is covered with appropriate electrical fundamentals.

**CT101 PRE-REQ: CP-101 Controls Intro** includes history & hierarchy, generic hardware (INs & OUTs) & software(algorithms). An overview of Unitary & Programmable control types, Application Specific Controllers, and network communication.

**CT102 PRE-REQ: CT-101 Application Specific Controllers(ASC)**Unitary, Fan coil, RTU, AHU & Chiller controllers(Carrier & Johnson) incl. specific setup of I\O's, setpoints & schedules, demonstrate associated communication and commissioning software.

**CT103 PRE-REQ: CT-102 Programmable Controllers** programming blocks; on\off, PID, setpoints & schedules, min\max\avg algorithms, etc. System communication & commissioning and the demonstration of the associated software is included.

**CT105-O Tridium Operations** is a short course exploring network controllers, creating and modifying schedules, and navigating and adjusting setpoints and parameters. Creating and viewing trends.

**CT105-C PRE-REQ: CT-103 Tridium Configuration** overviews of requirements for Tridium Certification & the config. portion: installing Comm ports, uploading controllers, creation of database, graphics and a sample of custom programming

**CT106 PRE-REQ: CT-105-O Intro\Overview to Honeywell Spider** intro course: Spider Programmable Controllers: Real Time Internal Clock, Adap Integral Algorithm Integrated Actuator Option, Unitary & VAV Controller

**CT107 Intro\Overview to Tracer** is a short introductory course exploring Tracer controls.

**CT108 Honeywell SpiderII:** Level II training: the Spider family of Programmable Controllers

**CT109 Tridium Advanced Configuration:** Level III Training (CT105-O & 105-C prerequisites)

**CA500** Future:Airside CA500 & Hydronic HA500 Hands On "Balancing Certificate" Prereq: 205A\W

**HA500** short course designed to solidify\validate skills for Start-ups, Analysis, & Balancing

**ID101 ID101 Course** is the course for those who want to secure their future with the ability to Identify & Develop opportunities. Establish yourself as a unreplaceable employee

<b>MESJ-101</b>	Fundamentals for Journeymen Advanced Training
<b>MESJ-102</b>	Motors, Starters & Diagrams, Circuit Protection, etc.
<b>MESJ-103</b>	Fundamentals of Single & Double effect Absorption Chillers
<b>MESJ-104</b>	Centrifugal Chiller Fundamentals
<b>MESJ-105</b>	Centrifugal Chiller monthly & annual maintenance
<b>MESJ-106</b>	Chiller Microprocessor & controls fundamentals
<b>MESJ-107</b>	Oiless VFD compressors: Overview & Intro
<b>MESJ-201</b>	Science & Physics fundamentals applicable to Start, Test & Balance
<b>MESJ-202A</b>	<b>MESJ-202A Course</b> includes intermediate training: Airside Start, Test & Balance
<b>MESJ-205A</b>	<b>MESJ-205A Course</b> Advanced Airside Start, Test & Balance
<b>MESJ-202W</b>	<b>MESJ-202W Course</b> includes intermediate training: Waterside Start, Test & Balance
<b>MESJ-205W</b>	<b>MESJ-205W Course</b> Advanced Waterside Start, Test & Balance
<b>TD-101</b>	Teardown Fundamentals: Dimensions, Tolerances, Clearances & Fits along with the basic fundamentals of Rigging and Teardown Disassembly & Analysis

### Refrigeration

<b>REF101</b>	<b>Commercial Refrigeration Cycles &amp; Troubleshooting</b> explores and compares real world and theoretical application and troubleshooting of the Pressure Enthalpy Cycle
<b>REF102</b>	<b>Refrigeration Piping</b> reviews the balance of oil return vs. pressure drop vs. efficiency as it relates to pipe sizing along with appropriate piping installation practices.
<b>REF103</b>	<b>Commercial Refrigeration Part II</b> explores components, refrigerant flow controls, and temperature control and defrost control of Commercial Refrigeration Systems
<b>REF104</b>	<b>Supermarket Refrigeration</b> provides an thorough overview of Rack Systems, unique operating conditions, Refrigerant & Oil Systems applied in Supermarket Refrigeration
<b>REF105</b>	<b>Advanced Supermarket Refrigeration</b> explores electronic valves, controls, secondary coolants(glycol), compound systems, CO2 Systems, efficiency considerations.
<b>REF107</b>	Future: Introduction to Cascade & Ultra Low Temp Please email <a href="mailto:JATRegistration@LU420.com">JATRegistration@LU420.com</a> if interested in this currciulum
<b>REF109</b>	Future: Overview\Intro Industrial Refig including NH3 Please email <a href="mailto:JATRegistration@LU420.com">JATRegistration@LU420.com</a> if interested in this currciulum

**PF101 MESJ Pipefitting Fundamentals** is a short course on pipe fitting fundamentals and fundamental math required for offsets, etc.

**SS101 Steam Systems: Service & Troubleshooting Fundamentals** is a new course geared towards srevice & troubleshooting and\or optimizing a customers facility. PRV's, traps, and condensate return systems will be explored.

**STAR1 STAR1 Course** includes review evenings to prepare for the UA HVAC STAR Cert including practice Exams and on the final night the proctored Certification EXAM

**VFD101 VFD Course** is a new course combining the generic fundamentals of how PWM VFDs operate including semi-conductors, specific parameters of a couple of VFD brands installation requirements, start-up, commissioning & troubleshooting.

**VRF101-MIT Mitsubishi(City-Multi)** Variable Refrigerant Flow ductless split systems

**VRF101-DAIK Daikin** Variable Refrigerant Flow ductless split systems

Tracks#1-4 require JAT (MESJ, AL, AF & TD )classes and others(BB,ID,REF,PF,VFD,VRF, etc.) total of 31 nights each track. Saturday =2.5 nights JAT-1: 62 nights JAT-2: 62 nights Controls Track (CT-XXX) require CT-xxx classes and others(BB,ID,REF,PF,VFD,VRF, etc.) total of 93 nights for EI(31),EII(31) & EIII(31)